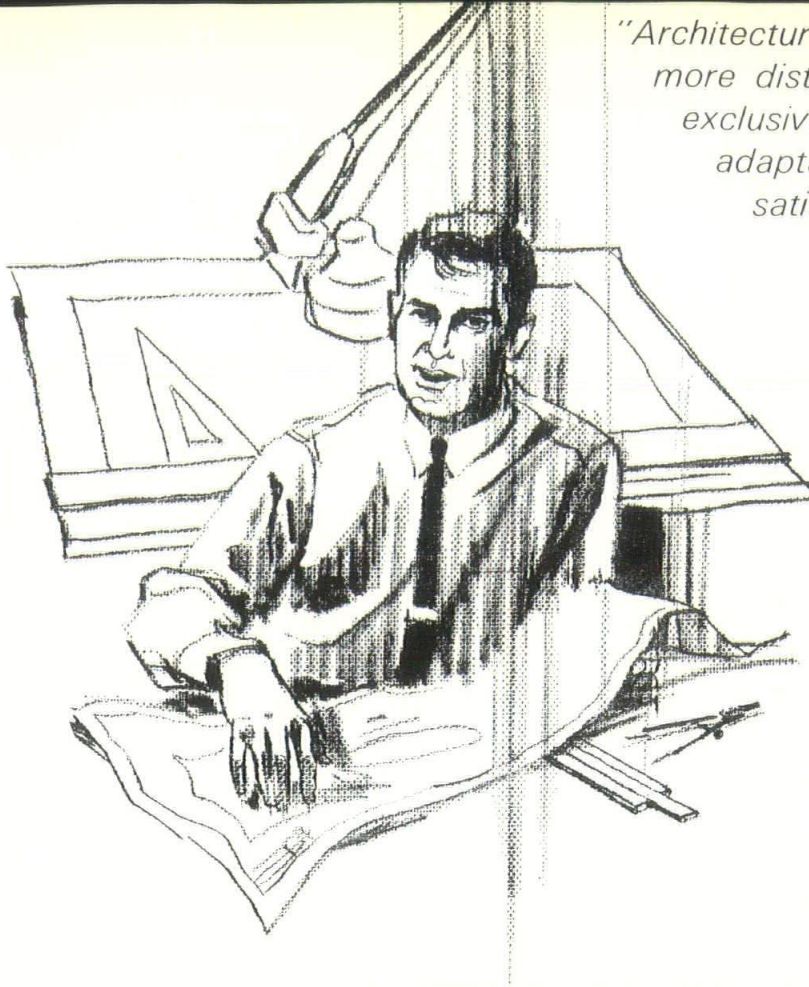


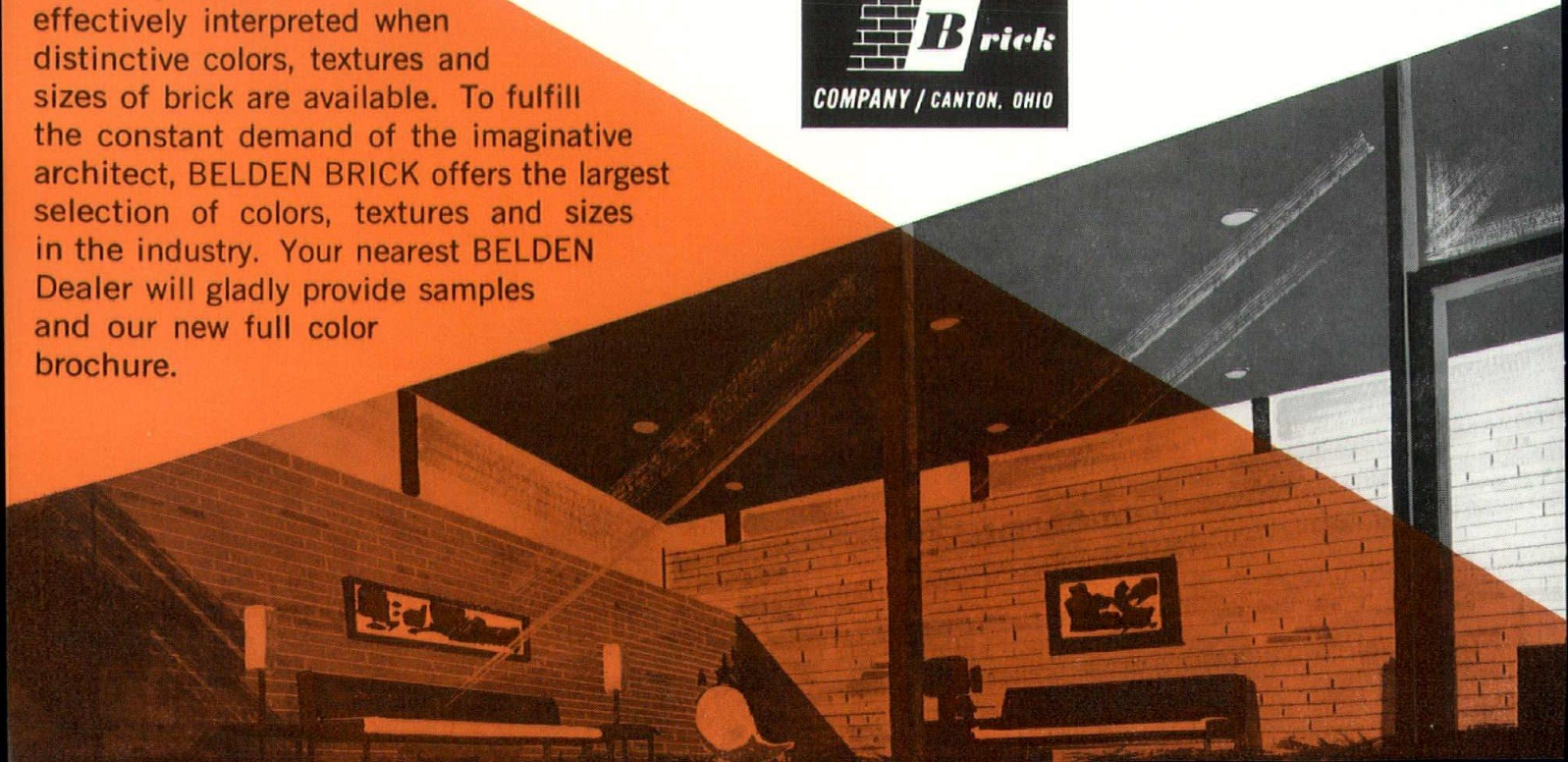
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NOVEMBER / 1966

VOLUME X / NUMBER 6

This is the Second of two Special Issues of the Magazine and concerns: Wither the Future of the Profession?

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THE INDIANA STATE BOARD of Registration for Architects has approved a considerably earlier date for the 1967 registration exams, March 20 through 23. The earlier dates reflect a recent decision for all states in this area to give the examinations concurrently. The states involved, Illinois, Indiana, Iowa, Kentucky, Minnesota, Michigan, Missouri, Ohio and Wisconsin, form the Mid-Central Conference, NCARB, of which Indianapolis Architect Charles J. Betts FAIA currently is president.

The examinations will be given at the College of Architecture Building on the Ball State University campus in Muncie, utilizing the college's facilities during Easter vacation. The NCARB Uniform Examinations will be used, covering in the 36-hour test period:

1. History and Theory of Architecture (Exam C)
2. Site Planning (Exam D)
3. Architectural Design (Exam E)
4. Building Construction (Exam F)
5. Structural Design (Exam G)
6. Professional Administration (Exam H)
7. Building Equipment (Exam I)

Applications to take the examination may be submitted by qualified persons after December 1st, and must be submitted no later than two weeks prior to the date of examination. Application forms are available from the Board, Room 1002, State Office Building, Indianapolis, Indiana 46204.

The Board also has ruled that the qualification requirement for one full year of experience after graduation from an accredited school of architecture will be compiled with strictly, and that students graduating last June will not be eligible to take the March examination.

Concurrently the Board announced the names of the fourteen applicants who successfully passed this year's exam. These are:

Kirtley E. Boyle, 2358 Hulman St., Terre Haute
 Eugene R. Brese, 5223 Turtle Creek, Indianapolis
 Werner H. Graf, 1322 E. Michigan Blvd., Michigan City
 Jon D. Hollman, 6136 Compton St., Indianapolis
 Raymond A. Keilman, 3795 Virginia St., Gary
 (Miss) Helga M. Koots, 3541 N. DeQuincy St., Indianapolis
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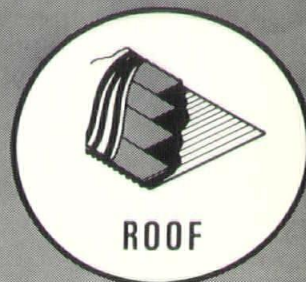
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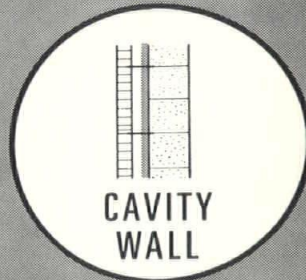
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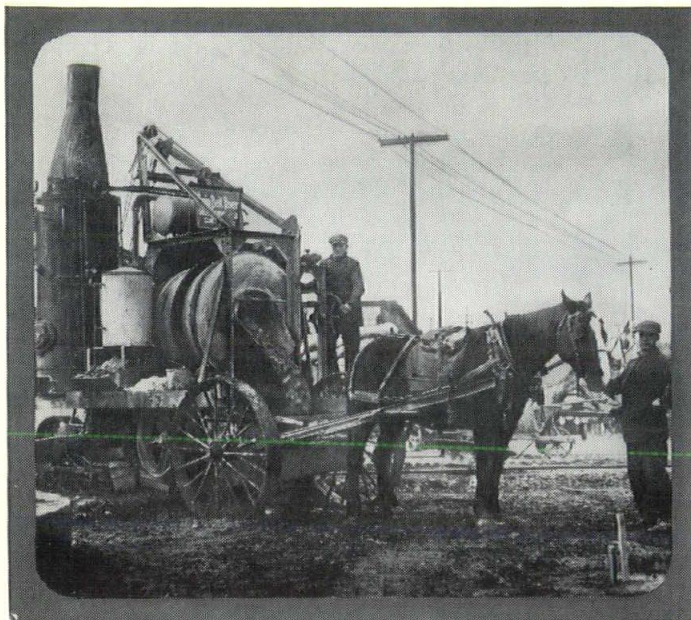


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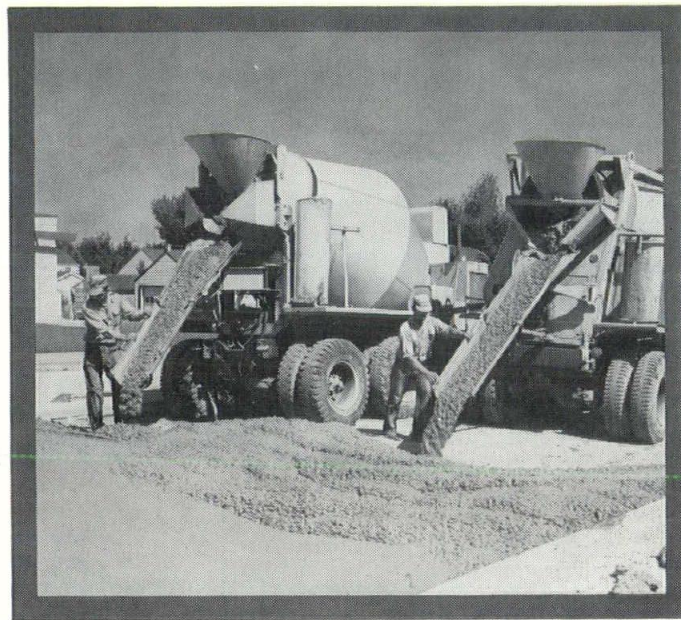
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CONVENTION HIGHLIGHTS

BY ANY STANDARD, the Louisville convention was a rousing success. Close to seventy Indiana architects and their wives participated in the three day program of business, professional seminars and fun.

The convention, held October 6, 7, and 8 at the Brown Hotel in Louisville, was a three-way affair, encompassing the annual conventions of the Indiana Society of Architects and the Kentucky Society of Architects, and the tri-annual convention of the East-Central Region, AIA. In addition, all three Indiana AIA Chapters held annual meetings during the convention.

In the ISA business session, Carl L. Bradley, AIA, of Fort Wayne, was elected president of the Indiana Society for 1967; Robert Schultz AIA, of South Bend, was elected vice-president; Henry Meier AIA, of Indianapolis, was elected secretary; and John Fleck AIA, also of Indianapolis, was elected to his second term as treasurer.

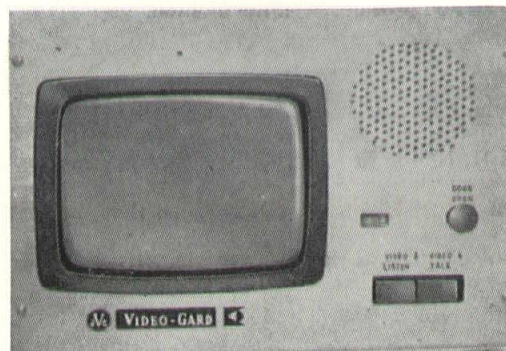
The major item of business to come before the membership, the consideration of a new fee schedule, was approved overwhelmingly. This new schedule, in the form of three curves plotted on a semi-logarithmic graph, will become effective January 1st.

In the East Central Region membership meeting, A. B. Ryan AIA, of Louisville, was selected to succeed Walter Scholer, Jr. AIA, Lafayette, as Director from this Region on the AIA Board of Directors. Mr. Scholer's term as Director expires in June, 1967.

Elections also were held by each Chapter. In Indianapolis, the incumbent officers were elected to their second term: Raymond Thompson AIA, president; Robert Kennedy AIA, vice-president; Arthur Burns AIA, secretary; and Jack Jelliffe AIA, treasurer.

Ewing Miller AIA, of Terre Haute, was selected as president of the Central-Southern Indiana Chapter for the coming year, with

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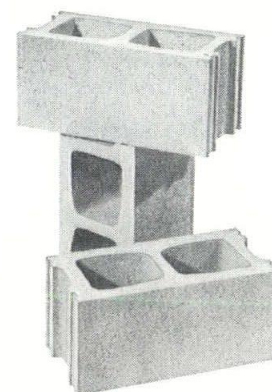
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James Johnson AIA, Anderson, vice-president; Dave Albright AIA, Bloomington, secretary; and Richard Hartung AIA, also of Bloomington, treasurer.

In the Northern Indiana Chapter, Tom Keene AIA, of Elkhart, was elected president; Richard Barton AIA, Fort Wayne, vice-president; George N. Hall AIA, of Gary, secretary; and Donald Smith AIA, South Bend, was re-elected treasurer.

The convention officially started with a surprisingly good turn-out for golf bright and early Thursday morning, but the first social affair actually was a pre-convention reception Wednesday evening, hosted by ISA President and Mrs. Alfred Porteous. The first business session, the Regional membership meeting, took place Thursday afternoon.

Thursday night 200 hardy conventioners and wives braved rather nippy temperatures for a dinner-dancing cruise aboard the chartered Belle of Louisville.

The business started in earnest Friday morning, with all Chapters meeting concurrently, followed by concurrent meetings of the Indiana and Kentucky Societies. Friday afternoon was reserved for a delightful afternoon at the races, in Churchill Down's VIP Suite. Friday night's dinner, presided over by Director Scholer, featured newly-elected AIA Vice-President Samuel Homsey FAIA as convention key-noter.

Saturday sessions concentrated on the professional seminars; the subject, "The Future of Architecture." Featured speakers were Herb Swinbourne FAIA, of Philadelphia, former chairman of the AIA Committee on Research, speaking on "Accelerating the Change," and Jack D. Train AIA, Chicago, a partner with Skidmore, Owings and Merrill, discussing "Architectural Education Change." Supporting panelists were Eugene L. Brown AIA, Indianapolis; James A. Clark FAIA, Lexington, Kentucky; and Charles Sappenfield AIA, Ball State College of Architecture, Muncie.

While their husbands seminared Saturday, the wives enjoyed a scenic bus trip to Lincoln's birthplace, "My Old Kentucky Home, Bernheim Forest and the Fort Knox gold vaults. A dinner-dance Saturday evening concluded the convention program which had been arranged by the host West Kentucky Chapter and convention co-chairmen Don Schnell AIA, and Lloyd Schleicher AIA, both of Louisville.

A total of twenty-six exhibitors participated in the education exhibits at the convention.



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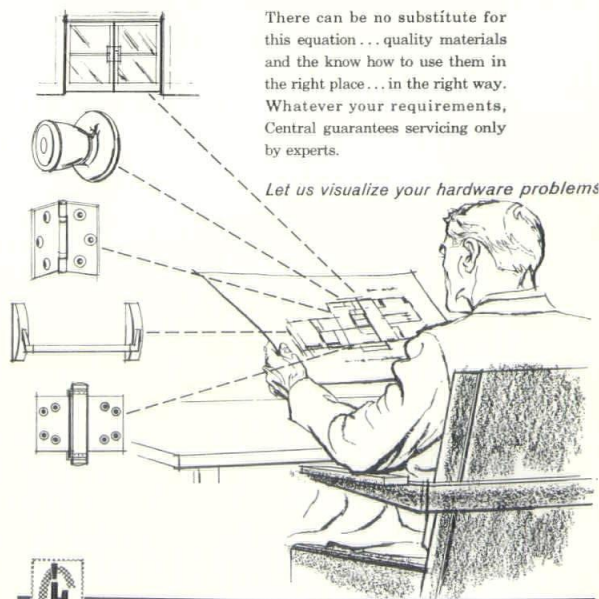
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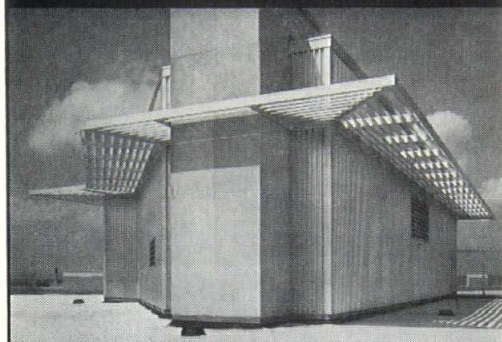


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Urban Environment

The subject is urban environment, both in terms of the central areas and in terms of our suburbs, in terms of our old cities and of our new super metropolises; we shall need to meander through some considerations that are derived from a few years of coping (or attempting to cope) with their problems and with attempting to develop solutions and concepts that may make us as much masters of the physical environment in which we live and breathe and raise our children, as we are becoming masters of environment on the other end of the sky.

The statistics are rather striking. The population of the United States had, at the beginning of the century, about 70% residing in the country and 30% in cities above fifty thousand population. Today the percentage is about 65% in metropolitan areas, and this percentage applies to a more-than-doubled population; by the end of the century we expect the urban population to represent 75% of a total of about 320 million people. If the predictions are allowed to stand, a major portion of the urban population will be mostly concentrated in several super metropolitan belts—one stretching from Boston to Washington; another connecting Chicago, Indiana, and Detroit; another reaching from Los Angeles as far as Santa Barbara and San Diego; another in Northern California; and, perhaps, one or more in Texas. Each of these will have a population in the order of 10 to 25 million people in a single cluster.

Now I think that populational growth may well be counted an act of God, but **where** the population settles in a matter of human wisdom, and if we gather in extreme concentrations or in more judicious and balanced distribution is something that we can govern ourselves.

The reasons that are bringing this gigantic scale are many, complex, and I am not even sure that it is necessary that we should understand them in full as **long as we understand clearly that there are alternatives, and they may prove more pleasant.** One of the obvious reasons for urban growth has been the industrialization of our economy. The centralization of means of production,

the ready exchange of labor, or technical talents, of tools, of knowledge, has greatly facilitated and greatly encouraged the growth.

The other factors that has contributed is, of course, the automobile, by giving us the illusion of living in the countryside simply by moving us to the outskirts of the central town.

A last factor worth mentioning is a kind of application of the law of Newton to urban areas:

The consequences are terrifying—in many ways. First of all, let us look what happens at the suburban level, that is, in the new districts that are formed by their process of peripheral accretion of growth. These are towns in which newcomers settle. They are newcomers in that they either are people arrived to the city from other smaller towns, or young families that are spinning off from the older ones; and they settle in what seems a most attractive physical environment. Very often it is attractive, because the developer has been able to provide amenities and to shelter the residents from certain realitis of the older cities to which we all too often choose to close our eyes as a convenient escape for our conscience and our well-being. The only trouble is that the developer has not provided them with a city. He has provided only a road network, some rudimental scheme of utilities, and a home. The newcomer will have no roots, have no identity, no civic responsibility, but he will demand the services that the community must provide, so that taxation will be imposed and it will become progressively heavier and heavier.

What is worse, the developer has only been concerned with his immediate needs: Namely, the selling of his product. Now when we produce washing-machines or we produce cars, there is no need to be preoccupied with what will happen ten years after. But a house and a neighborhood will be long enough with us that their problems and limitations resulting from lack of wisdom or lack of responsibility will have soon become a public burden.

Now, if the crisis is just emerging in the new suburbs, it is full-blown in the centers of the cities. The inevitable deterioration of the central

areas which were built, sized, and scaled in the pre-automobile days, which must compete with new development designed for the automobile, and which are unable to make the transformation needed to cope with today's conditions.

We started being concerned with the transformation of the central areas about ten to fifteen years ago, mainly out of curiosity; having pioneered in the field of the design of suburban shopping centers, we wondered why the same criteria—the same concepts that are applied to the development of suburban centers could not be applied to the transformation of the central areas. Somewhat to our surprise, we found that indeed they could: Separation of traffic movements, separation of pedestrian and service movements, creation of areas of extreme concentration of activity, and development of adequate parking where it can be done most efficiently and more effectively.

When we started the search of solutions for the central areas, the main questions were: First, "can it be done physically?", and, second, "is it worth it—does it make sense to undertake this gigantic program, very tedious and expensive both in money and time?"

Today the questions are far more complex; we can only continually search for a reconciliation of the two extremes.

On the one hand there is the recognition of our extreme mobility: we change area of education, we change area of employment with extreme ease thus the destruction of the continuity of the family, the lack of allegiance to a particular location; lack of stable roots makes us reluctant to develop a permanent attachment to an urban core; thus the decline of the central areas. Is it that, with some romantic attachment to the European heritage, we are trying to impose a form that is alien to the emerging culture of America? Or is it simply that we have allowed the automobile to destroy a scale and a way of life that is common to all cultures? While this question might raise doubts on the validity of the transformation and revitalization of the central area, there is another question that allows no room for doubt: "Does it make economic sense?" or "Does it make architectural sense?" are far less relevant questions to the issue of revitalization of the central areas than the painful query: "Does it make social sense?"

We have allowed—we have indeed encouraged—the deteriorating central areas to become points of crystallization for economic, racial, and

social ghettos. We have gone contrary to our democratic responsibility by non-doing, by non-being aware, by running from reality; and now we can't wish the results away. We have to solve the problem, simply because we are committed to the task as part of our heritage; it is no longer important whether it makes economic sense or not to solve the problems of the central area: they must be resolved so that they will not persist as symbols, or indeed as instruments, of a practice of social unfairness which our conscience cannot tolerate.

Before we have a glimpse into things to come and into what might emerge of the prevailing state of confusion, we might discuss a few of the many new factors that have entered into our life and our economics and that have a profound influence on the shaping of the urban environment and in the definition of the new urban forms that will be emerging in the next generation. I will mention three such factors: one (that I mentioned before) is our extraordinary mobility I do not mean just the mobility of being able to drive a hundred miles in comfortable air-conditioned cars, as we now can; but the mobility that takes us from one town to the other at the slightest change of opportunity, from one assignment to another in different regions; the mobility that has made of the new generation one that has no roots other than superficial attachment to family or to city of origin.

The second point (and this is a very challenging one because indeed it opens up altogether new horizons) is the acceptance of the fact that the economics of the building industry indicate that replacement is more advantageous than renewal or remodeling within the span of about one generation now (and probably less than one generation in the foreseeable future). In other words, the houses that are built today will be no longer viable thirty years from now, and it will be cheaper to build new ones than try to fix up the old. Now this is a horrifying thought to anyone who views architecture as the art of permanency, who takes expensive and tiring trips to Europe to see what remains from centuries ago—to think that what we are building today isn't going to last even for our children to see! Yet we have accepted this in many other instances: We use Kleenex instead of handkerchiefs; we don't wait until our car dies (as we used to wait for our horse to die), we get rid of it before! Somehow

(Continued on page 28)

If Cities Prevail

Most, but not all, architects become sooner or later identified with a city. It is their community, not in an exclusive but a collective sense. However, some of us proceed as though we belonged nowhere, uncommitted to a place and a time. But can we wait?

For the last decade the urban crisis has been increasingly apparent. All have read the statistics of population growth, racial imbalance, congestion and poverty. To talk knowingly about it seems to suffice, but few go beyond this. When will architects actually refuse employment from intractable owners who are destroying the city? When will they risk alienation to state their convictions for the constructive future? Everywhere the urban eye is cast, the architect is implicated. The responsibility overwhelms. The war may well be against extinction instead of "ugliness."

One forgets that "city planning" is ever a kind of architecture. Why are planners segregated as specialists in a morass of ordinances and statistics? If a city plan is like a house plan, how can it be implemented without architects?

We now admit that the single building is not important in itself but only in its context in the environment; but do we act this out? The photographer still focuses only on the new work, not its neighbors too. The jury, the critic, and the client seek new forms more than relevant or continuous forms. When we do preserve architecture of the past, we tend to lift it from context like tiny Hull

House stranded in the shadow of the fearsome Circle Campus. Sentiment too often overrides scale and use. The visual considerations of some current planning seem like so many still pictures in an album. Space, time, motion and shifting objects are neglected. It must be understood, as the pop artist explains, that the total city is a work of art.

If cities are to remain habitable centers of culture, some new concepts would seem in order:

The Establishment would be cured of its naive and tragic Lincoln Center Syndrome, the urge to separate and decontaminate a few vital elements into a brave new park, be it cultural, educational, or industrial. This is only done at the expense of all the other parts of the city. Leadership would demand informed solutions with insights from other locales, with perception of the present not the past. Democracy would be more evident in the resultant forms. The struggle for status quo would be "out." The undecided and the apolitical would be left in the rear guard.

Eventually, architects might not undervalue things with which we are not accustomed to dealing: Inner city expressways, mass rapid transit, automobile storage, low income housing, industry. If a raised inner loop is ordained for a city of the plain, why could it not be a vital element? Why is it not done in the manner of a Morandi or a Maillart? The Roman aquaduct still remains eventful in the landscape, and it does not even accommodate people. Too long has the auto-

mobile been excoriated by the tasteful. Even if Marshall McLuhan were right and the private car is only here for another decade or so, we would provide for it simultaneously with the achievement of rapid transit. Parking structures are already in some few cases contributive and mighty. Like crabgrass, cars usurp open space because no one wants the land for anything else. When high density is achieved and open space is cherished, parking may become architecture.

Architect-planners could well embrace the "aesthetic of change." Life is short and cities are long. No rigid plan, be it Baroque or medieval, is viable today. The plans must metamorphose with each phase consciously in transition. We would seek an anti-formal, anti-geometrical, organic accretion with emphasis on the articulation and hierarchy of the parts, not simply the dominance of the core. The dramatic but oversimplified plan would be recognized as unserviceable. But no plan would ever be considered finished.

The raw nature of places would be more overtly acknowledged and sought out by planners again. Water and topography are welcome barriers, not obstructions. When they are erased a contact with reality is severed. Rivers refuse to be determined by the Renaissance. Even the prairie itself demands a particular recognition.

An urban ecology, as suggested by Jane Jacobs and others, would emerge as a science of sorts to support the planner. The psychic urban requirements of humans would be more fully charted. For the study of people comes prior to the study of appropriate forms. Identification, variety, mental health, and social interaction must be weighted in the scheme of things.

Sprawl is, after all, the result of the con-

sumer's motivation. He would stop running from the city when the benefits of a return are evident. It would take more than ordinances to reverse this tide; it would take an effective social unit larger than the 1/2-acre ranch. The feeling of one's neighborhood could be like the coming and going from rooms of a large house. Peripheral definition would play a more important part than focal points. Grid plans do not achieve this; the spirit of the place ebbs and flows away down long unending streets. For vital containment the old grid would be intermittently closed and hence impractical to through traffic. A non grid connector system would serve as the corridors of the house. Once again the pedestrian might have some routes of his own rather than being shunted into a chase with other traffic. Louis Kahn's servant space articulation could be applied to town planning.

The new architecture would surely demand new proportions of open space. For example, the Renaissance piazza may not be the answer for a John Hancock-sized tower. The sequence of voids takes precedence over any individual mass. We would conversely reduce the use of space for traditional margins of single buildings. Even the distribution of towers on the skyline would not be left to chance promotion. The fear of any high-rise now widely held by students of beauty would give way to the necessity and potentiality of such new dimensions.

When all is realized, the social and functional strength of the great city expressed in visual form would give men an understanding of their world nowhere else obtainable. It might be worth the effort.

EVANS WOOLEN



Landscape Architecture

Landscape Architecture, like architecture and city planning is concerned with the creation of an environment that will give meaning and dimension to life in our civilized communities.

"At its broadest scale, the discipline of landscape architecture is closely allied to that of city and regional planning. It deals with the problems of the physical environment in large areas, whether urbanized or rural. While economics and social considerations must be taken into account in establishing a program of wise land use, physical appearance is also important.

"The design principals involved in landscape architecture are similar to those of architecture. Both involve the same basic analytical approach and the satisfaction of highly varied requirements. The two professions differ as to scale, techniques, materials, methods, and to some degree functions . . . the landscape architect dealing with outdoor space while the architect generally deals with buildings and indoor space. The landscape architect frequently works with a less rigid spatial development and he is often less controlled by mechanical requirements.

"Therefore, while closely related in design principals, the two arts may frequently be quite divergent in design expression. In almost every instance, however, architecture and landscape architecture are supplementary or complementary to each other. Thus active collaboration between

the two professions is essential. Specifically, landscape architecture is concerned with the arrangement of land, together with the spaces and objects upon it, for safe, efficient, healthful, pleasant human use. Site and situation, together with social requirements, constitute the basis for all landscape architectural design.

"In its very beginnings in this country over a century ago, the field of landscape architecture was visualized and practiced on a broad scale by two major pioneers in the field, Frederic Law Olmsted and Charles Eliot. The basic values that were revealed by these two far-sighted individuals still exists. The need for comprehensive landscape architectural design is not diminishing but is increasing. The expansion of population and the growing complexity of environmental organization make the need greater today than ever before in history." (1)

"By the late 1800's there had been gradually established in the United States a social system ruled by big business and by men of great private wealth. These were the clients of our early landscape architects. These were the days of the great estates, the sumptuous railroad resorts, public gardens, and city parks replete with magnificent sculptural groups and monumental fountains. There were many things to commend this period of our history but there were also social undercurrents that presaged a change." (2)

As late as the beginning of our present century there was a wealthy social class that had devel-

oped a high artistic consciousness and a love for the finer things of life. They were the patrons who collected art and who commissioned the artists. These families of position have been forced by taxation to abdicate their role of artistic arbiters and public benefactors. There have been, as yet, no successors.

Our class structure today is less stratified than ever before. The luxuries and niceties of our fathers' generation are the necessities of our own. We have developed our productive capacity and gain a new leisure. We have, however, come to accept somehow, without question, the fact that we live in a soda-pop, chewing gum atmosphere of poor taste on a mass basis. We find our highways lined with the brash conglomeration of the dairy cream, the used-car lot, the pottery stalls with pink concrete flamingos and the white-washed deer. Our furniture is stamped in machines and our children's toys are punched out of the flimsiest of plastics. (2)

At the same time, we have wasted one of the most beautiful natural landscapes that man has ever come upon. Almost everywhere that man has laid his hand, he has brought about widespread destruction of natural beauty. He has chopped, plowed, burned, bulldozed, stripped, and mined without control or reason in an exuberant rush to "open up" land for further extension.

The monumental task of reversing this uninspired, destructive attitude toward land development belongs to all disciplines concerned with environment study. Only by strengthening a collaborative program can we expect to reduce "design naivete" on a large scale.

Landscape architects have indeed given to many spaces and places in harmony with the natural and man-made landscape. Landscape architects have developed plans for most of our national, state and city parks and parkways, for most university campuses, our golf courses, fairgrounds, and public gardens, and a large proportion of our institutional grounds, subdivisions, private gardens, industrial parks, and urban plazas and squares. These works must be multiplied a thousandfold and they alone are still not enough. It is not sufficient to build gardens in our communities and parks in our cities. The concept of planning our communities as gardens

and of developing our whole nation as one wide, spacious, interrelated park, deserves consideration. (2)

- It is encouraging to see a new environmental concern on a national basis. The federal government has shown increased and commendable interest in open-space conservation, recreation, community planning, and urban renewal. (2)

There is also developing a new regard for unspoiled nature, and we are joining, through governmental encouragement, in a concerted campaign to conserve and preserve vast areas of our natural landscape. We are beginning to invite nature back into our cities in the form of parks and parkways and gardens. Architects seem to be more respectful of the forms, features, and forces of the natural and man-made landscapes and, the engineers are learning to curb their zest to smash, blast, and destroy; they are coming to respect and respond to topography. (2)

Landscape Architects have experienced a mushrooming demand for their services by the agencies, the public, institutions, corporations, developers, and private home owners. The National Forest Service alone is presently employing about ten percent of all landscape graduates. They estimate that within ten years or even less the Federal Government will be asking for about fifty percent of all graduates from landscape architectural schools.

Today's comprehensive land development problems demand the best services from planning, landscape architecture and architecture. The problems are larger in scope and complex. They require of landscape architects all the skill and knowledge at their command. The challenge to the professions is to provide this specialized knowledge, and the task of schools is to prepare the students to become good professionals. (2)

Indiana has long been considered the "backwaters" of a profession which is enjoying impressive growth on the national level. Last September the Department of Horticulture at Purdue University initiated a four-year degree program in landscaping architecture. This September there are twenty-eight majors in landscape architecture and fifty-eight students enrolled in a professional survey course. The establishment and subsequent growth of this new program at Purdue University should provide the necessary stimulus for an improved professional stature in Indiana.

JAMES E. BROWNING



(1) Harvard University Publication. Catalogue, Graduate School of Design, Department of Landscape Architecture

(2) Committee Report, "A Report on the Profession of Landscape Architecture," *Landscape Architecture* Vol. LIV, No. 1

Technology and The Sciences: Their Impact on The Profession

If you haven't read the July issue of ARCHITECTURAL RECORD, then I suggest the article from it entitled "Science and Technology as a Design Influence" as a companion piece to this article. There is little reason to duplicate that which has been already written. The RECORD article divides technology into the in-office advances and the construction field advances.

The in-office advances, of course, include most of the labor saving and speed devices of which the profession has been woefully short for many years. As we all realize, we have had few machines to help us with an increasingly complex profession. Although our office production techniques don't resemble Leonardo Da Vinci's, they have not changed much since the middle nineteenth century.

The advent of the computer as a work saving device and an information storage capsule should be a welcome relief to architects.

The most immediate application is in the use of computers for specifications as an easy data retriever, using the computer as a high speed typewriter; the purists think this is a misuse of the machine. Those concerned with economy, "guarantee" savings. There are a few who feel that the electronic typewriter with its magnetic or punched tape does this as well, cheaper, but at a slower speed.

The problem with all of these machines is the time, extent and cost of writing the programs.

A master specifications on tape or punch card is an expensive proposition. We as a profession are cautioned against listening to the electronic hardware salesman who makes it sound so simple to justify sophisticated machinery equipment that no one yet uses well. If you undertake a computer effort, be sure your programs are well thought out, and be sure the programmer who is going to put your questions to the machine is qualified.

The second use of the machine currently is engineering analysis. It looks, to this architect, as though the structural engineer and the mechanical engineer can make definite use of the machine.

In the immediate future we do have the potentials of data retrieval, engineering analysis, human factors analysis, job cost controls, and critical path analysis. The machine on which we can draw and obtain the manufactured details, drawings and blueprints is still in the future; but all of this is maturing faster than the profession realizes.

The field of building technology is covered by others, certainly by the article in the ARCHITECTURAL RECORD. Plasticity of concrete is nothing new. Steel and aluminum manufacturers each year present awards for the creative use of their product, and I think it would be redundant for me to spend time saying the same thing. I will offer in this area one comment: the new uses of materials and our advancing technology are now hung on the hook of an archaic concept of labor. This

can best be solved at a national level which most organizations and government bodies seem to be reluctant to bring about. Our own national AIA could be of great service to our profession if they would start talks that would solve this problem. We are a good 15 years behind systems of precast in Europe that places plumbing in the walls and finished on the surface, at the factory; this allows a total manufacture of some building sections in controlled conditions at the factory.

The percentage of the economy devoted to construction and its potential for the future is attracting major manufacturers in this country such as General Motors and General Electric and "think factories" like Rand to consider how they may participate in this field. They have an important ingredient which is not found in the disorganized and unrelated inherited structure of the "general construction industry" — namely, major research funds. These companies have the ability for total environmental development. None of these organizations employ architects and engineers per se.

Recently, I have been told, at Milwaukee a group of scientists were engaged in planning a thirty mile area around Milwaukee. When asked why architects and engineers weren't there, they stated that it was too early; that the environment would be decided and then the architects and engineers would be brought in to give structure to it.

These new sciences are projecting themselves into the area long considered the sole province of the architect. We have often considered the engineer to be the technician and our hand servant in environment. Now we had better change our thinking towards engineers and also become students of these new behavioral sciences if we wish to become partners with them.

There are many architects, I find, who would just as soon not be given an environmental program because they wish to be only the sculptors or the artists in the field of environment with someone else taking this responsibility for definition of what the environment should be.

I caution, however, that psychologists, behavioral scientists, and many others are as concerned with space. We may well find esthetics being dictated to us if we are not partners with them; we could easily become only the commercial artists of structures to give form to the dimensions the new science has set for given areas of the urban complex.

The geographer and ecologist, along with the botanist and biologist, are harder sciences that can be of great help to the planner and the architect in site selection, in regional planning, and

area planning. There is a wealth of accumulated knowledge and ecological control of environment that can be used and should be used.

The use of the anthropologist and the psychologist is oftentimes an overlapping field and less of the hard sciences than we have been discussing. The amount of knowledge that we know of man, is still rather limited. We know more of him as an individual than we know about his behavior in groups and densities. An article recently by Mr. Lillenthal pointed out the problem that 300 million Americans would be wrong because these densities affect man's consideration of his government, how he reacts to democracy, and how he behaves in his moral concepts. If we are to maintain the freedom that we have today, we must start by agreeing that we have less than our grandfathers because of increasing densities and the resultant changing concepts of the freedoms. If we are to pass as many of our freedoms on to our children as we wish or deem necessary, then we must determine how densities and their effect upon the design of housing and transportation and distribution will affect concepts of thought.

In our own firm we have used psychologists for the behavioral studies and student reaction. Mr. Swinburne has used anthropologists to help him design spaces for student living areas. The architect, therefore, clearly can be a partner in this area of environmental professions. If we ignore these disciplines then they will provide the data and hire artists to put it into volumetric concepts.

The greatest mistake that we are currently making, is to call ourselves the only profession trained to solve man's environmental problems. This I know is meant in good faith and sincerity by a number of our leaders. I think we must recognize that we are no longer alone—that we are the artisans to a series of emerging sciences. Empirical knowledge that has served us well in the past can no longer serve us. We should be conversant with and students of people who are going to give us better facts upon which to build our design. Technology, like many changes in social structure, is a bruising experience.

It is a swinging world. If we wish to be of greatest value, we must loosen our 19th century concepts of ourselves and swing with it. The business man has had to do this, the educator is beginning to do this, and both have survived very well. We must survive in a slightly different shell, nevertheless. I implicitly believe we will survive.

EWING MILLER



Plastics in Architecture: A DYNAMIC CHALLENGE

The introduction and acceptance of structural plastics in the architectural field will change significantly the modes and procedures of architectural practice. Structural plastics undoubtedly will influence the design of building as much as the introduction and use of reinforced concrete 98 years ago by the French Landscape Architect, Monier. At the present time about 1% of the tonnage of building materials being used in this country are plastics. This use takes about 25% of the present gross product.

The most limiting feature to the use of plastic in building is the acceptance by building officials and code writing bodies. Modern codes will define acceptable construction by standards of performance rather than by specifying materials. More important is the development and acceptance of non-combustible plastic and the establishment of fire-retardant ratings.

Present uses include flooring, finish-surface materials for interior and exterior use, translucent panels, mechanical equipment components, and thermal insulation. Glass-fiber-reinforced plastics as structural elements are in development. When combined in sandwich panels (with foamed core) rigid, domed units are being combined into relatively long span shapes. Glass-fiber-reinforced plastics (FRP), like reinforced concrete, are tailored to meet design conditions in the same way reinforced concrete is used. Architects using FRP must think in terms of assembling modular units which have been molded and fastened or bonded together. These shapes may

be coated either in the field or in the factory, using resinous binders of epoxy, urethane, or polyester. The finishes are generally hard and smooth, easy to clean, water repellant, with good chemical resistance.

Today's plastics are expensive to use where used as a substitute for existing building materials. Taking all factors into consideration (i.e., raw materials, production methods, installation procedures, finishing costs and maintenance) plastics may compare favorably in many areas. The tendency in today's building is for the cost of building to be reduced as total volume of product is increased. The reverse is true with regard to labor. In finding ways of constructing buildings quickly and in great abundance, the tendency is to decrease the available labor force and increase the cost of labor. Therefore more and more pre-fabricated or programmed units must be incorporated in construction. Plastics lend themselves naturally to this situation.

Plastics are a new class of materials and should not be treated as direct substitutions for steel, aluminum, or timber. Their unique properties should lead to efficient and economical solutions. The material can have great dimensional structure and greater temperature resistance than conventional materials. Surface structures such as shells and folded plate systems where strength is primarily a function of geometry or a configuration of inter-connected elements are good potential users of plastics.

Most plastic structures currently feasible are curvilinear, and generally examples of



A FIELD INSTALLATION OF DOW'S SPIRAL GENERATION PROCESS

stressed-skin construction. The Architectural Research Laboratory at the University of Michigan, Ann Arbor, has explored the structural potentials of foamed plastics for housing in the under-developed areas of the world. They have investigated umbrella shells as primary elements, folded plates where the plastic is a secondary structural element, rigidized-flexible and filament wound systems as contributive structural elements.

The most promising primary structural system developed today is "spiral generation" invented by Donald R. Wright and developed by the Dow Chemical Company. This system involves the use of a specially designed machine which bends and thermally bonds boards of polystyrene foam into pre-determined structural shapes. The boards must be hand-placed.

These shapes are presently limited to domes or segments of domes. The machine head revolves on a pivot mechanism and forms and seals each layer upon layer into a structural spiral. The geometry of the structure is limited by the thickness of polystyrene boards capable of being bent, the dimension of the boom used to carry the machine, and the capacity to program the equipment. The end product is relatively economical, lightweight, and has excellent insulating features.

However, its wide spread use as a complete building is limited because of (1) failure of homogeneous bonding by the equipment (which can be corrected by visual inspection and hand-repair using epoxy materials), (2) the ability to protect exterior and interior surfaces from damage, either purposefully or accidentally inflicted, (3) the ability to fire protect the surfaces; (4) the ability to wed conventional building materials to it; and (5) the extremely high cost of hand finishing the building.

One example of spiral generated domes is located in Indiana. A cluster ranging in diameter from 26' to 44' is used. The plastic structure will support a uniform load of 50 lbs. per sf. These domes (see illustration) have concrete exterior surfaces and fire-retardant plaster interior surfaces.

In this generation, Architects will have astounding new tools to work with. Spiral generation will be developed into a type "programmed generation" which will foam in place architectural shells with glass fiber reinforced exterior and interior surfaces. This program generation system will be controlled by computer and the computer will be programmed by the Architect. The age old pattern of construction, piecemeal, a stick and stone at a time held together with mud, spit, and a prayer will be broken forever. Buildings will be almost instantaneous.

Indeed even today Hughes Aircraft Company has developed a balloon which is designed to be inflated in a vacuum (for extra-terrestrial use) with a pre-attached coating of one component urethane powder which is made to foam, actuated by solar radiation, for form a rigid self-supporting space retreat. And at MIT, Professor Albert G. H. Dietz of the School of Architecture has demonstrated the use of spray-reinforced plastics over balloon forms. A second ((middle) coat of rigid urethane foam combined with a third (outside finish) coat of reinforced plastic forms a light sandwich shell of great strength, stiffness, insulation value, and resistance to damage. The balloon can either be left as an interior surface or deflated and reused for another structure. Architects will shortly have to think in new, dynamic terms.

The ability to dispose of a structure simply and economically will replace the value presently attached to permanence. Future generations will not be hamstrung by the accumulated polyglot of the past. Automated structures which require little, field hand labor will replace the present cumbersome procedures.

The Architects' greatest problem and most significant opportunity in the future will be how to use these machine-made components to still produce variety, individuality, esthetic, responsible environments.

E. H. BRENNER



Architectural Education Change

Let us first examine the parameters of the term "architectural education." **First**, the most obvious, is the formal academic training that leads to a college degree in architecture, environmental design, or whatever descriptive name we choose to use. **Second**, and almost as obvious, is apprentice training that leads either entirely or together with academic training to a license to practice. **Third**, and a little less obvious, is continual professional education that hopefully extends through the active career of every architect. Not nearly so obvious, but certainly of great importance, is architectural education of the general public so that we may expect more enlightened clients who will aid, rather than hinder, our quest for environmental improvement. Finally, a form of education that could conceivably be included under academic, but one which I will single out because it is being ignored everywhere except through the organization of the AIA, is education in the form of architectural research.

Once the scope of architectural education is defined, let us attempt to set forth the challenge it must face. **Architectural education** has as its **major challenge** the task of sorting through the maddening confusion which faces the profession and **signaling the direction in which our profession must head.**

The most acute factors leading to confusion and variations of architectural philosophy are the accelerating scope and rate of industrial, political and scientific changes, coupled with the fact that each individual possesses a different adjustment ratio. In just the past one hundred years in the United States, the industrial surge following the Civil War, with the development of industrial steel production, harnessing of electrical energy, and advances in communication and transportation, and the resulting shift from a primarily rural to a primarily urban civilization have com-

pletely staggered our profession, which is hobbled by centuries of tradition. It is safe to say that the most progressive and adaptable architect of today persists in performing certain functions in traditional ways that are otherwise entirely irrational. Accepting the theory that it is difficult to teach old dogs new tricks, I fear the greatest burden being borne by the profession at the present time is the teaching of old tricks to new dogs.

Not being a formal educator, **my views on academic education must be expressed exclusively as a product consumer rather than as a product producer.** Judging by the academic products I have encountered, I have a strong feeling that producers of college graduates tend to be like certain building product manufacturers in that they are overly concerned with production techniques and too little concerned with product suitability to developing demands.

The complexity of the problem of architectural education is not a natural result of advancing knowledge, as many of us have come to believe. The natural result of advancing knowledge should be, as it always has been, greater simplicity and greater ease of understanding, learning and teaching. Albert Einstein aptly expressed our dilemma when he stated, "Perfection of means and confusion of aims seem to be characteristic of our age." Our architects must be well trained to form and retain a total vision, unobstructed by the infinite wealth of specialized knowledge which he must absorb and integrate.

The architectural office and its organization are changing as buildings become larger and more complicated. Offices are becoming larger and more complicated, and it is apparent that the day of the one-man office or the small two or three-man office will become a thing of the past within the career span of many of us present. Much like the small neighborhood grocery stores, the only one-man offices that will exist in the future will be those of practitioners who work out of their own

basements and practice on weekends in order to provide a special kind of service at low cost, or the lone practitioner who is so outstanding as to quality that clients are willing to stand in line and wait the time necessary to get his particular talent applied to their problems. In general, however, the bulk of architecture will be performed in large, efficient offices that perform complete architectural services within the shortest schedule and at the most reasonable cost. Since the integration of structure and mechanical systems into buildings now constitutes such a large portion of the building cost, it is no longer practical to consider these engineering services as services to the architect. Just as the structure and mechanical systems are a part of the building, the engineers are a part of the team that designs the building.

If a young architect has any basis to be critical of his academic training, he nevertheless is forced to consider it first-class as compared with the apprentice training he gets. If apprentice training is intended to develop an academically-trained man professionally so that he can become licensed and represent the profession in practice, it is little wonder that state board examinations merely re-examine a man's academic qualifications. Most candidates would fail the non-academic aspect of professional practice because we keep our young architects as much in the dark about the operations of a professional office as we possibly can. Is there anyone here who can honestly say he carries through on an apprentice training program which gives the young architect an insight into client relations, ethical reasons and decisions, legal implications and contract writing, and office management in terms of fees, costs, overhead, etc? This failure to help young architects avoid the same pitfalls we experienced previ-

ously does not help us competitively. It simply weakens the ethical forces of our profession so that our entire group is more susceptible to competition from the unethical forces.

Architectural education of the public is a challenge to every segment of our profession. The general indolence of people toward the arts and architecture and the prevalent methods of education in design seem to be interdependent. Through improved education, people should be encouraged to believe again in the basic importance of art and architecture in their daily lives. So long as we consider the problems involved to be a matter of individual feelings which cannot be objectively defined as to standards of value, we cannot expect them to be recognized as basic for educational progress.

If I have stressed problems, shortcomings and tasks, rather than solutions, answers and achievements, it is because they reflect a period of groping transition in architectural education which we are currently experiencing. What unifies an age—what gives it character, courage and confidence—are rarely answers, but rather a common view of problems and tasks, and the concurrence that these are indeed relevant to the generation.

We are in midstream today. Most of us still take traditional ways for granted. But one thing is certain: the past is going fast. If there is one thing we can predict, it is change. The coming years of rapid change in our vision, in the direction of our efforts, in the tasks we tackle and their priorities, and in the yardsticks by which we measure success or failure. It's an exciting world we're living in, and we are charged with making the best of it.

JACK TRAIN



The Education of the Architect—NOW!

Today we find ourselves in a rapidly expanding and wonderfully exciting society. It is certainly a period of great building. Within the next decade or so the country will literally be made over. The prospect of vast building excites us but also brings with it the threat that the architect will find himself more and more under subjection to blind, so-called practical demands.

The question of how well and how quickly today's architects can adapt their thinking, their attitudes, and their methods of practice in the next decade will determine not only the future of the profession and the quality of design but also the shape and qualities of American civilization. Because we are the only professionals who have the education, experience and skills to design buildings and large urban facilities to accommodate human needs we must assume the responsibility for playing a major role in the enormous program that is immediately ahead of us.

The problems will be faced, studied, solved and reinterpreted at one time by countless disciplines acting in concert. If we let design decisions wait for complete solutions to related problems we will, by default, invite others to assume our role. For the building job will be done; its quality is the only question before us.

The immediacy of the challenge to our profession is obvious. But how shall we meet it? We must investigate thoroughly the new requirements of projects so large as to be beyond the scope of our small profession as we work today. We must determine first what knowledge architects need to have to do this job and then develop the programs from which today's architects as well as future architects can acquire and use this knowledge. Above all we must commit ourselves

to the changes needed to participate in the revolution underway.

Perhaps our first step in our new role is to re-study the entire question of professionalism as it relates to architects and more particularly our standards which tend to discourage the involvement of the architect as promoter or owner. In order to assure the needed voice of the architect in decision making we will need to be involved in the origin of development, in the feasibility studies, in the securing of financing as in design. We will need to understand land and building values, income potential, tax implications and the basis of mortgage financing.

For the larger tasks ahead we must make long range plans for the education of future architects, in increasing numbers.

One architect who has thought seriously of the problems of education is Richard Bennett. He feels that since almost all professions, as well as other fields of study, are changing to meet the changing world, architects might well study the trends in teaching of other professions as a help in considering their own problems.

Everywhere less cumbersome teaching methods must be used to increase the number of professionals whether in the ministry (the first profession in our country to benefit from college instruction); medicine; law; military training; engineering; or business. His studies have convinced him that the case study method has been most effective. It is a method, he feels, that can be extended by feeding in varying information and aiming it at a wide range of problems and purposes. When real life situations are studied in the context of real problems and judged by the criteria of reality, imagination feeds on facts.

Business education as developed at Harvard and other universities has been most successful

in using the case study method and the nations finest business firms have cooperated by sharing facts, problems and their temporary solutions.

The sheer volume of knowledge required to face the future has been met, he finds, by the practical education of men for war. It is more grimly efficient and effective than the techniques we apply for peaceful disciplines. But in the training of officers we may learn how to train ourselves. Basic skills are taught at the academies. Vacation time provides practical training and experience. After graduation, the officer's career alternates between assignments to troops or ships with further education in specialized fields

The answer to the problem of continuing education must be met by a serious, well organized cooperative effort by the AIA, the schools of architecture, and successful firms of all sizes.

All these schemes for improving our educational system are relevant but the fundamental quest for what makes a great or even good designer must always be before us—no matter what techniques of training are developed. Case study, it seems to me, is a most important tool, but only if we realize that each case is unique in that the facts studied are continually changing—only the process of understanding or seeing the problems on their own terms will prepare the student for his profession in the rapidly changing world.

Dean Bill Lacy of the University of Tennessee says that "the significant thing in education is the exposure of the student to ideas and philosophies of a few men who have mastered the art of seeing."

The natural step from learning to see is to question, to develop an attitude of inquiry.

J. F. Kennedy said, "We need more men who can dream of things that never were and ask 'why not?'" The task of architectural education is to find the students who have the courage to ask why? and why not? and to develop their talent for projecting these ideas into creating an environment for all people.

In recognizing the growing importance of technological training in the education of an architect we must remember that architecture is not structures or engineering; it is not air conditioning or acoustics; or the cheapest square footage. It is not a style either. It is none of these things and it is all of these things plus the feeling you have when you walk into a space and the feelings you remember after you leave. As Le

Corbusier said, "Space is the foot that walks, the eye that sees and the head that turns."

Educating ourselves and future architects to meet our responsibility in shaping our civilization is not enough. We must face the task of educating the public to understand our goals. As John Buchard, professor at MIT, has said of such education, "If enough of us can begin to keep our eyes open as we go through the world, if we can learn to refuse to select the single moments of beauty from the trash of our visual environment, or rather insist that the trash disappear, then we may be prepared to use our influence to confirm and finally reclaim the modern metropolis. The power of the architect will never be there until it rests on a large and positive support from a citizenry which has learned to see."

As the problems of our expanding society grow, the complex forces resulting in worsening poverty and urban decay can only be met by social and political education. This action already begun has as its leaders the several jurisdictions of government and business who have become increasingly the new clients of architecture.

Now is the time to influence the minds of men in politics and business that the qualities an architect possesses are those which bring the technical requirements into proper subjection to the ideal ends. The means of controlling senseless change without killing the forward impulse is embodied in the aesthetics of form and order.

Every articulate member of this profession must immerse himself in the political and social life of his community. Every one of us must place himself in the strongest possible position to create and influence community sentiment to demand large scale planning. The solutions for the gnawing ghetto problem, the reform of antiquated laws, balanced transportation systems, taxation reformation and many other problems must be faced and we must have a vital part in it.

The qualities of the architect in questioning the status quo, in the evaluation of needs, the insistence on the aesthetics of form and the determination that we keep the human scale and yet meet the demands of a wholly new scale of planning and building may yet create a civilization which can look forward to healthy growth and development. But our lessons can only be learned from the courageous conviction of the men who practice architecture.

SAMUEL E. HOLMSEY



Architectural Education: QUANTITY as well as QUALITY

Much time and effort has been devoted and will continue to be devoted toward upgrading architectural education. The Plan for Professional Development is a very important—and perhaps the most important—program being carried on by the architectural profession today. It is believed that we cannot overemphasize the importance of a continual upgrading of our educational processes, but unless we also make proper plans for turning out an adequate number of architectural school graduates, we will not be able to assume our responsibilities to society in what appears will be the greatest building boom in history. President Johnson has estimated that the country's construction requirements for the next 35 years will be equal to all that has been accomplished from its beginning until the present.

What constitutes an adequate supply of architects for this expected building boom? This is difficult to determine. We do know that there are currently about 30,000 registered resident architects in the 50 states, serving a current population of 192 million (according to U.S. Census Bureau figures) or a ratio of 1 architect to every 6400 persons. We also know that in recent years architects have practically abandoned the single family residential field except for larger housing developments. Also currently much of the smaller commercial and industrial work is being done without benefit of architectural assistance simply because we do not have the manpower to do the job.

Past President Odell reported that on his recent trip to Australia he found a ratio of architects to population there of 1 to 2500 and that they were having difficulty in keeping up with the demand in their rapidly developing country.

It would seem that a similar ratio in this country would be a reasonable target.

If we should achieve this ratio of 1 to 2500 by the year 2000 (the U.S. Census Bureau expects 300 million population at that time) it will be necessary to increase our ranks from 30,000 to 120,000. While this is a staggering total, it works out at an increase of only slightly over 4% a year for the 35 years. Very few figures are available as to the total number of registered resident architects in the U.S. over past years. However, if the same ratio between AIA members and the total registered resident architects has held for the past 10 to 12 years we can assume that a growth of 4% a year has occurred over this period; therefore, if this is maintained for the next 35 years we will reach the number of 120,000 architects by the year 2000.

There has been good progress in the last few years in obtaining new schools of architecture and in expanding some existing facilities. This has been accomplished to a large extent through the united efforts of the profession. The colleges and universities throughout the country will continue to do their best to meet the demand, but as enrollments soar, they will tend to fall back in those fields in which organized efforts are not evident.

It is urged that we recognize the necessity for an organized and continuing program for expanding the architectural educational facilities throughout the country and for encouraging more high school graduates to enter these schools, to the end that sufficient supply of well trained individuals are available for "tomorrow's architecture."

WALTER SCHOLER, JR.



URBAN ENVIRONMENT (Contd. from page 14)

we have to extend this acceptance to the fields in which we are emotionally more committed, and, if we come to this, then we may view the city as a living organism forever changing and yet permanent.

The third item of significance that will affect our urban form is communication. Now, I do not mean simply the fact that we can call each other over the phone at extremely low costs and at extremely too great length, or the fact that we will soon be able to see each other longdistance (at the expense of many levels of privacy and comfort!), but rather I am referring to the values that the new intensity of communication has on our standards and attitudes. Profound changes are emerging and the new techniques of communication, of extreme intensity, of extreme frequency, destroy much of the conventional values that we had attached to the urban structure. Will the city still be viable in the form in which we have known it, or what new forms will emerge?

As far as the suburban growth of our large cities, my prediction is that indeed we will eventually come to the realization that we don't have to let our great cities grow larger and larger; that we have alternatives available. I believe that within a few years we will embark upon a national program of evaluation of our land assets to establish where it would make most sense for the growth of our population to settle, in relation, especially, to recreational facilities, which are going to be, in a few years, the main determinant of choice of urban residence. Two centuries ago, transportation was the main reason for settlement of a town: You settled where a river heading was, where the roads or the Indian trail crossed; and, later, where it was necessary to establish a railroad stop. One century ago, the main reason for location of towns was the proximity to raw materials. You created cities where the coal was found, so you have Pittsburgh; or you created cities where gold was found; and so forth. Now, with communications and transportation easily available to us, there is no particular reason for being located at a cross-road, or next to raw material, since a great many we fabricate synthetically anyway. But where the mountains are, or where the lake shores are, or where we can have a house and a boat, that is where we will choose to settle.

So I predict that we will establish a program

whereby we will approach the problem of urban growth with the same pioneering attitude, the same logical determination with which we extended our railroad West just three generations ago, and that we will build new cities, and we will do away with the problem of land speculation simply because enough land will be made available to develop as needed. There will be joint ventures of private and public initiative: joint ventures of government (to assure that the new cities will be created as systems that will prove most economical not just from the standpoint of initial investment but from the standpoint of the ultimate operation as well), of builders who will create the new urban forms with great variety and imagination, and of industry, which will exchange their commitment to build new plants for the city's commitment to grow in accordance with plans and programs.

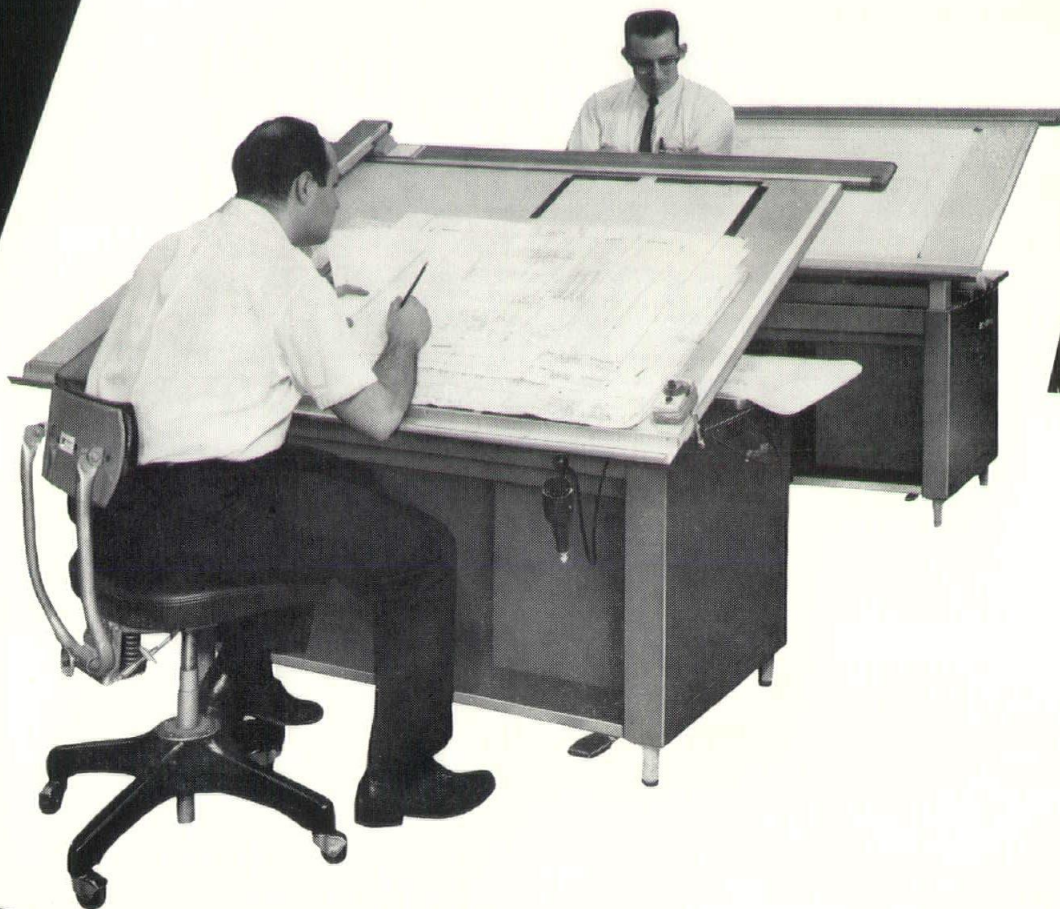
As for the old city centers, I think that we will see more and more of the application of the technique of urban renewal, in the more sophisticated form that is beginning to take place—not simply demolition and reconstruction, one piece at a time, but rather the concept of a systematic program of transformation of the entire centers of the cities that historically represent the focal point of the region and are therefore well worth preserving and strengthening.

Finally, I see the renaissance of the smaller city as one of the great opportunities and great challenges in the future of the country. I believe that the small city (40 to 100 thousand people) has something to offer that, just because of our increased mobility, just because of the increased levels of communication, personal identification, comprehension of one's environment, has become lost in the very large city. In the large city, we live often a far more provincial life than is led in a town of 50 to 100 thousand people, because we protect ourselves from its enormity by sheltering ourselves within a circle of friends and acquaintances that is generally very small. The smaller town, as a bridge between the new and the old, will indeed offer alternatives to live in the large metropolitan area. It will take, however, imagination and determination to respond creatively and constructively to this challenge; out of the medium-sized towns that we now have, dozens will fail and decline as against the few that will prosper and assert themselves.

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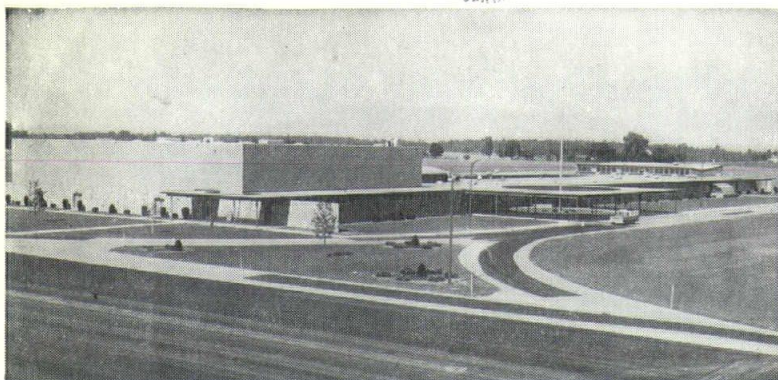
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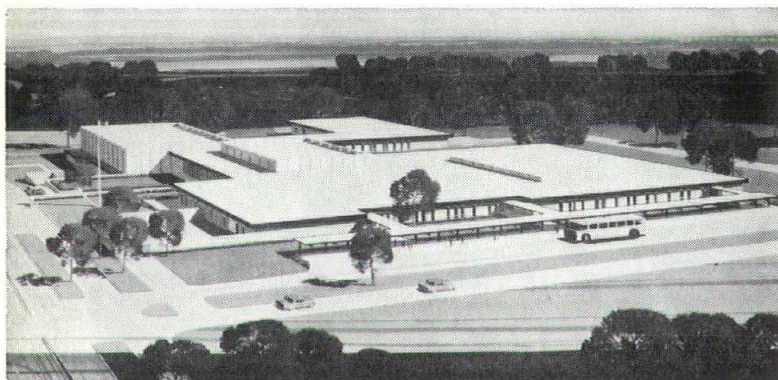
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This beautiful new consolidated junior-senior high school is located on the 900 North Road, 9 miles north of Peru. Dedicated in November, 1961, it is designed with classrooms, laboratories, cafeteria, auditorium and athletic facilities for an enrollment of 750. During the planning period a special committee of 15 people visited schools heated by coal, fuel oil and electricity. They discussed various types of heating with architects, and discussed electric heat with school officials. They also talked about heating electrically with individuals who have electric heat in their home and churches. Result: the committee recommended electric heat. Architects were Hamilton and Graham.



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This beautiful new school now under construction is located on a 51 acre site near Verne, on State Highway 61 southeast of Vincennes. Designed to handle 800 students in grades 7 through 12, the building contains 15 academic classrooms, 10 laboratories, a library, and 13 additional rooms for music, shop, art and supporting educational facilities ... plus a 3,500 capacity gymnasium, and auditorium seating 600, a cafeteria and administrative office. All of the inside spaces are air conditioned. Heating space will total 140,000 square feet. James Associates, architects, say this may be the largest school in Indiana using electric heat.

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CANDELLA VISITS INDIANAPOLIS NOV. 29

FELIX CANDELA, world-renowned Mexican architect and engineer, will speak in Indianapolis at the first Indianapolis Concrete Conference, November 29-30. The conference is being sponsored by two universities, the College of Architecture at Ball State University and the Indianapolis Campus of Purdue University, and several construction industry associations, and will be held at the Purdue Indianapolis Campus.

A specialist in the design and construction of thin-shell concrete structures, Mr. Candella has just been commissioned to design the

Sports Palace for the 1968 Olympic Games in Mexico City. His firm, Cubiertas Ala, S.A., has participated in thin-shell design in Mexico, Venezuela, Central America, Columbia, Peru, Cuba, Argentina, England and the United States.

A fascinating man of highly diverse accomplishments, Mr. Candella currently holds the appointment of Jefferson Memorial Professor at the University of Virginia, and is a member of the faculty of the Escuela Nacional de Arquitectura, University of Mexico. He served in 1961 as the Charles Elliot Norton Professor

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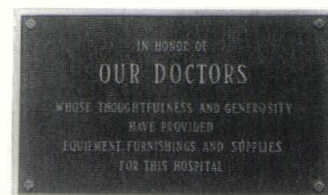
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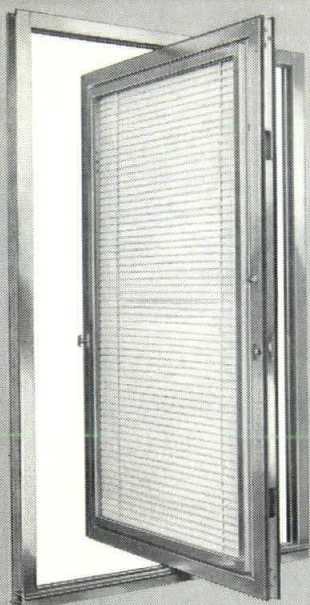
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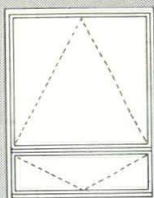
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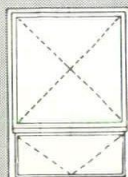
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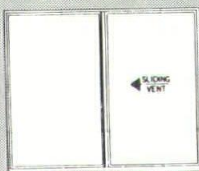
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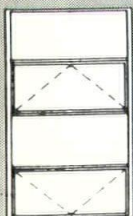
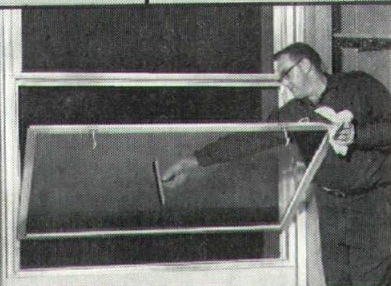


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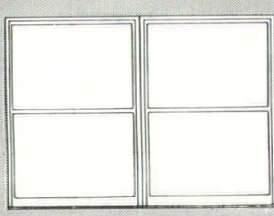


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of Poetry at Harvard University, was Spain's national ski-jumping champion in 1932, and halfback on that country's national rugby team in 1933. He journeyed from Spain to Mexico in 1932, a refugee from the Spanish Civil War.

He is a graduate of the Escuela Superior de Arquitectura de Madrid, a lecturer, writer, and the holder of dozens of honors including (briefly): Honorary Memberships, American Institute of Architects, Royal Institute of British Architects, Church Architectural Guild of America, and the architectural societies in Venezuela and Columbia; Gold Medal, American Institute of Structural Engineers; Auguste Perret Award, International Union of Architects; Plomada de Oro, Sociedad de Arquitectos Mexicanos; Honorary Doctor of Fine Arts, University of New Mexico; and Alfred E. Lindau Award, American Concrete Institute.

The two-day conference will include discussions on costs of flat plate structural systems, design of caisson foundations, torsion in concrete, chemical admixtures, concrete finishing, and concrete testing. A design and construction seminar on the new high-rise PHA elderly housing project by the architect, Evans Woollen AIA, the engineers, Fink, Roberts and Petrie, the contractor, George Bahre Co., and representatives of American Precast Concrete, Inc., will conclude the conference.

Other sponsors include the Indianapolis Chapter, AIA; the Portland Cement Association, Indiana District; Metropolitan Indianapolis Branch, ASCE; Construction League of Indianapolis; and Midwest Ready Mix Concrete Association.



Urban Renewal Talk

EDWARD J. LOGUE, development administrator of the Boston Redevelopment Authority, will speak on "The Challenge of Urban Renewal," Sunday, November 20, at Clowes Hall on the Butler University campus, Indianapolis. The 8:00 P.M. (EST) meeting is sponsored by the Butler chapter of the American Association of University Professors and the Student Council.

Mr. Logue is one of the foremost authorities in the field of urban planning and redevelopment, and he has long emphasized good design and aesthetic values in his work. For seven years he headed the development program in New Haven Connecticut, and has been in Boston since 1960.

Members of the public are invited to attend the lecture without charge.

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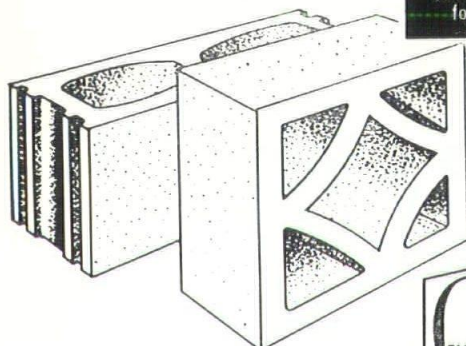
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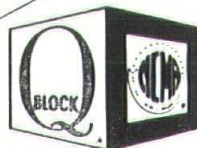
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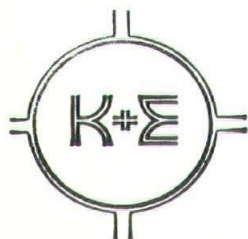
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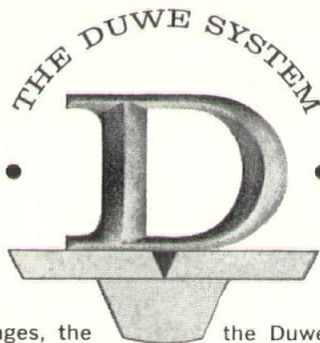
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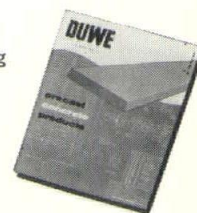
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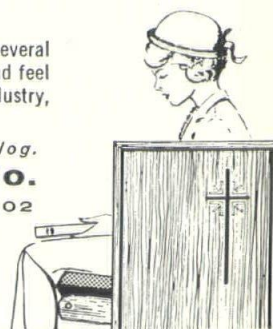
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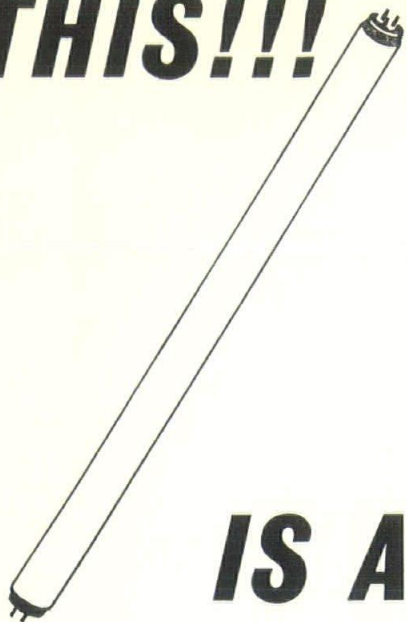
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Letters

To the Editor:

Congratulations on your fine start toward developing a more interesting and vital image for the INDIANA ARCHITECT. As you indicated, the attempt was long overdue; the publication has long suffered from a reputation of being little more than a vehicle for advertising. I was impressed with all of the improvements and particularly in the area of content.

As I see it, the purpose of the magazine is twofold. First to report important events occurring in the field of architecture, including coverage of developments in urban, metropolitan and regional planning and design as well as those relating to individual buildings. Second, and most important, to take a strong lead in presenting our profession's position on important issues affecting man's physical environment. Above all the publication should, as you said, "reflect the Architects' concern for esthetics."

You have given us an excellent brief review of Indiana's architectural past and we are promised an issue on her future. If you can continue to develop a strong editorial voice, the publication can become an important weapon in the fight against ugliness in its many forms.

Sincerely,

LYNN H. MOLZAN, AIA
Indianapolis

To the Editor:

I thoroughly enjoyed the "Architectural Salute to the Indiana Sesquicentennial" in your new INDIANA ARCHITECT for September, 1966.

To see all those pictures of old Indianapolis as well as the new modern look, was indeed a real treat. Incidentally, the cover is quite interesting too.

If the next 150 years are as progressive as the 150 we are now celebrating, the changes will be fantastic.

Best wishes in your new venture in giving your magazine a new look.

Sincerely,

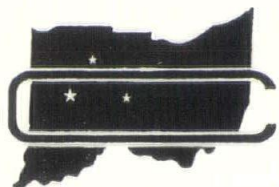
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